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Dysprosium (66) gave poor spectra but sufficient to indicate that it consists of mass numbers 161, 162, 163, 164 not differing much in relative abundance.

Holmium (67) is quite definitely simple 165

Erbium (68) is not so complex as it was first supposed to be. The ~~first~~ early samples used were evidently ~~undoubtedly~~ contaminated ~~with neighbouring elements~~ ~~impure~~. A pure sample gave three strong lines 166, 167, 168 and a weaker one 170

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Ytterbium (70) appears to contain mass numbers 171, 172, 173, 174, 176 of which 174 is the strongest.

Lutecium (71) is simple 175

It will be seen that these six elements fill all the numbers from 161 to 175 and show have no isobares

DSI

A full account of this work will be published in due course with estimates of relative abundance and the atomic weights deduced. It is already evident that the International values for several of the rare earths are in need of revision. That of Holmium (163·5) is particularly bad.

Cavendish Laboratory
Cambridge
Feb 17

F.W. Aston

DSI

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Dr. Ing. Armin Weiner,

Generaldirektor
der Westmährischen Elektrizitätswerke A. G.
Brünn, Nová 36.

DSI

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THREE HALFPENCE

Dr. Ing. Armin Weiner,

Nova 36,

Brünn,

Czechoslovakia

DSI

Aston, Francis William

TRINITY COLLEGE,
CAMBRIDGE.

July 1st/24

Dear Sir

I regret that as I type all my scientific MS. I have little for your purpose.

I enclose a rough pencil draft of a letter recently published in 'Nature' if this is any good

Yours very truly

F W Aston

D51

AUTOGRAPHE

de

Aston

francis William

OBSERVATIONS

1.L.a.s. 1 p.8, Trinity-College, Cambridge, 1.7.1934, an Dr. Weiner, bedauert, alle seine wissenschaftlichen Arbeiten mit Maschine zu schreiben, sodass er kein Manuskript senden kann; übermittelt deshalb einen Bleistiftentwurf für einen wissenschaftlichen Brief, der in der Zeitschrift ,,Nature'' veröffentlicht worden ist.

2.M.a.s. 1 1/2 p. 4, Cavendish-Laboratory, 17.2./1934/. Bleistiftentwurf zu dem in ,,Nature'' Nr. 3357 Vol.133 Samstag den 3. März 1934 veröffentlichten Aufsatz mit dem Titel ,,Constitution of Dysprosium, Holmium, Erbium, Thulium, Ytterbium and Lutecium''.

Aston, Francis William.
Chemiker.

Geb.1.9.1877, Harborne b.Birmingham

Stud. Birmingham Chemie, anfangs Gärungschemie, dann die Entladungserscheinungen d. Elektrizität in Gasen. Wurde 1909 a.o. Prof. am chem. Laboratorium in Birmingham. Im gleichen Jahre am Trinity College in Cambridge, wo er bei I.Thomson am Cavendish-Labor. arbeitete. War während des Krieges Leiter d. Aircraft-Factory, aber schon 1919 wieder am Cavendish-Lab. Erfand den Massenspektrographen, mittels dessen er die Isotopie bei nichtradioaktiven Elementen nachzuweisen vermochte. Diese wichtige u. bahnbrechende Entdeckung trug ihm den Nobelpreis für Chemie u.vielfache andere Auszeichnungen ein. Den Nobelpreis erhielt er zuerkannt ,,Für seine Entdeckung vom Verhalten von Isotopen-Gemischen bei vielen nichtradioaktiven Grundstoffen sowie f.d.Entdeckung des sog. Gesetzes d.Ganzzahligkeit.

DSI

Nature, No.3357,Vol.133, Saturday,March 3,1934.

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1/ Nature,132,930,Dec.16,1933.

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